SONY®

KV2093R

TRINITRON® COLOR TV

(CABLE COMPATIBLE TV)

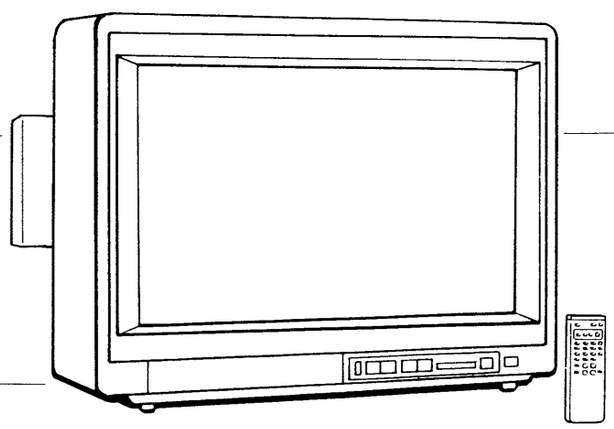
OPERATING INSTRUCTIONS

Welcome to the advanced world of Sony TV. For the best results and the utmost satisfaction from your new set, please read this manual thoroughly and retain it for future reference.

OWNER'S RECORD

The model and serial numbers are located at the rear. Record these numbers in the spaces provided below. Refer to them whenever you call upon your Sony dealer regarding this product.

Model No. KV2093R Serial No. _____



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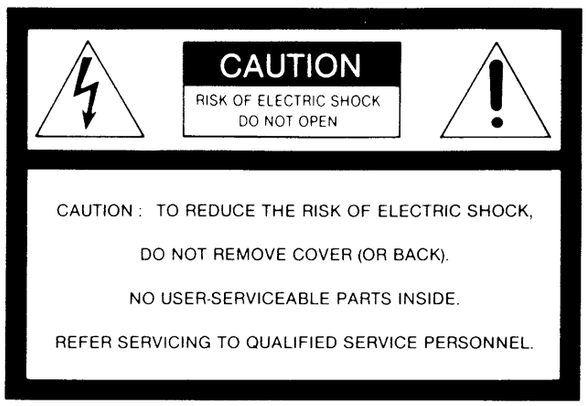
WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION : TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

CAUTION
TO PREVENT ELECTRIC SHOCK, DO NOT USE THIS POLARIZED AC PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

PRECAUTIONS

Safety

- Operate the set only on 120 V AC.
- One blade of the plug is wider than the other for the purpose of safety and will fit into the power outlet only one way. If you are unable to insert the plug fully into the outlet, contact your dealer.
- Should any liquid or solid object fall into the cabinet, unplug the set and have it checked by qualified personnel before operating it any further.
- Unplug the set from the wall outlet if it is not going to be used for several days or more. To disconnect the cord, pull it out by the plug. Never pull the cord itself.

Installation

- To prevent internal heat build-up, do not block the ventilation openings.
- Do not install the set in a hot or humid place or in a place subject to excessive dust or mechanical vibration.

Cleaning

Clean the set with a slightly damp soft cloth. Use a mild household detergent. Never use strong solvents such as thinner or benzine as they might damage the finish of the cabinet.

Repacking

Retain the original carton and packing materials for safe transport of this set in the future.

Use of this television receiver for other than private viewing of programs broadcast on UHF or VHF or transmitted by cable companies for the use of the general public may require authorization from the broadcaster/cable company and/or program owner.

FEATURES

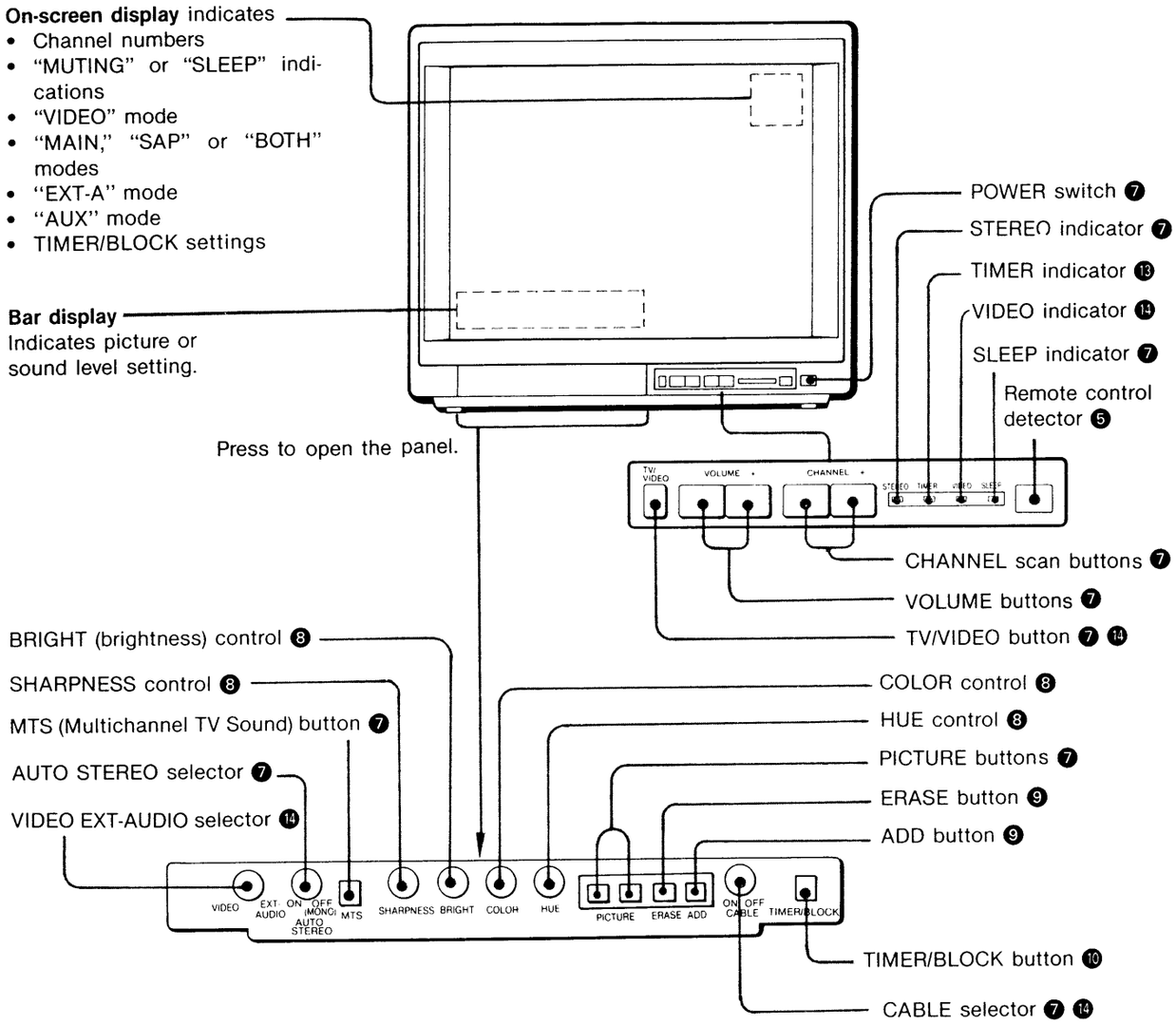
- **New Microblack™ Trinitron picture tube** for high resolution, high contrast picture.
- **Multi-band VHF/UHF/CATV tuner** receives up to 125 cable channels for a total of 181 possible off-air and cable channels.
- **Built-in MTS (Multichannel TV Sound) decoder** enables reception of stereo programs and SAP (Second Audio Program) broadcasts.*
- **Timer/Block** features automatic program starting and channel blocking.
- **External-audio selector** enables you to receive FM simulcasted programs with the addition of optional equipment.
- **Built-in video and R/L audio input and output jacks** provide direct hook-up to VCRs and other optional equipment.
- **Converter (decoder) for pay cable TV** can be easily connected using TO CONVERTER and AUX terminals.
- **MONITOR OUT/TV OUT selector** allows for taping of either the picture being viewed on the TV or the TV signals.
- **ANT/AUX button** on the remote commander permits one-touch selection of pay cable TV when a convertor is connected.
- **Jump button** makes it possible to switch quickly between two channels and monitor two different programs alternately.
- **Sleep timer** automatically turns off the TV after one hour.
- **Remote Commander** for convenient operation.
- **On-screen display**
- **Dynamic Color™ system** for superior color reproduction with natural facial color tones and dazzling whites.
- **Dynamic Picture™ system,** which adjusts picture contrast automatically to produce more detail in both bright and dark areas of every scene.
- **Colorpure Filter™,** which produces fine picture detail without color spill or color noise.

* Depends on the availability of off-air stereo broadcasts.

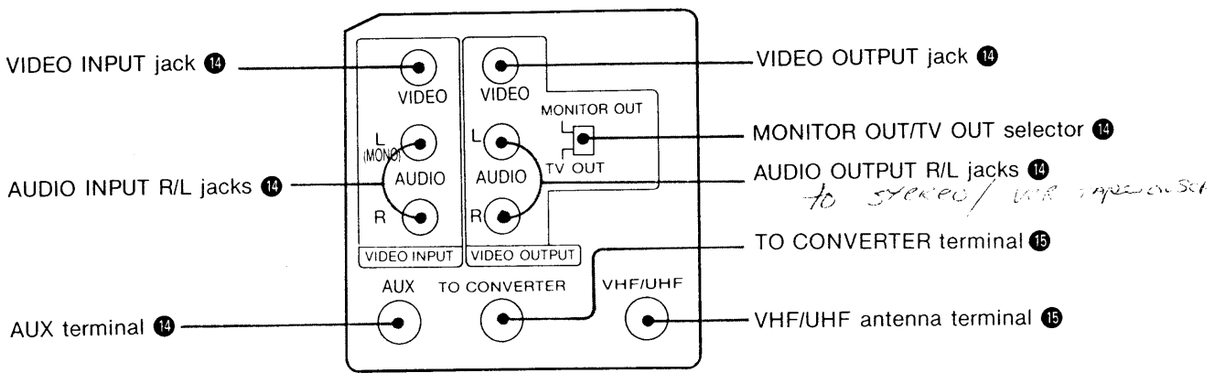
LOCATION OF CONTROLS

For further details, refer to the page numbers next to each item.

Front



Rear



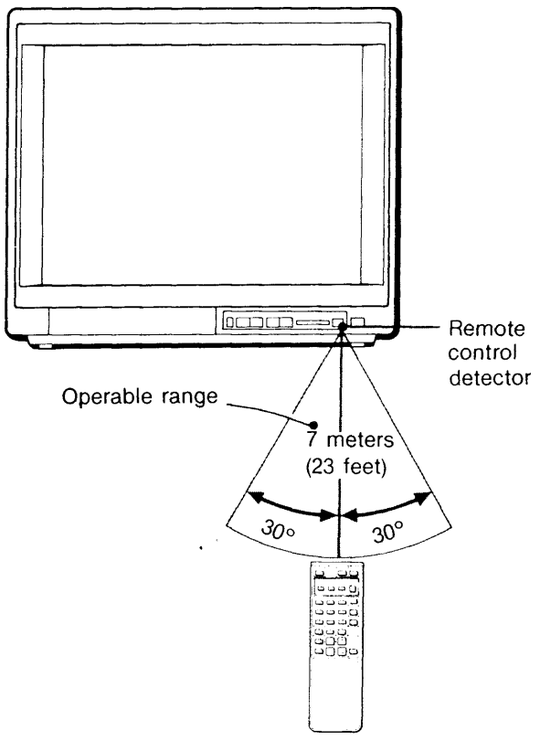
SET-UP

REMOTE COMMANDER

1 Turn the Remote Commander face down, press the tab and lift the cover.
2 Place batteries in the Commander with the polarities in the correct directions, as illustrated inside the case.
3 Replace the cover.

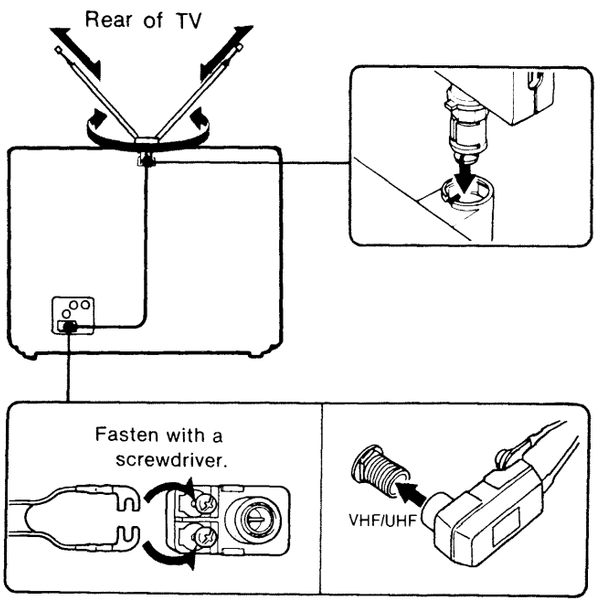
Notes

- Use 2 size AA batteries (IEC designation R6).
- In normal operation, batteries will last up to half a year. If the set does not operate properly, the batteries might be exhausted. Replace all with new ones.
- To avoid damage from possible battery leakage, remove the batteries for extended unused periods.
- Be sure that there are no obstructions between the Commander and the TV.
- Operable range is limited.



INDOOR ANTENNA

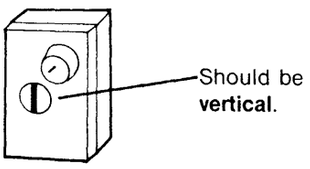
If your local broadcast signals are strong, attach the supplied indoor antenna.



Adjust the length, direction and angle of both elements symmetrically until the picture is clearest.

FOR CUSTOMERS IN THE U.S.A.

Antenna Connector



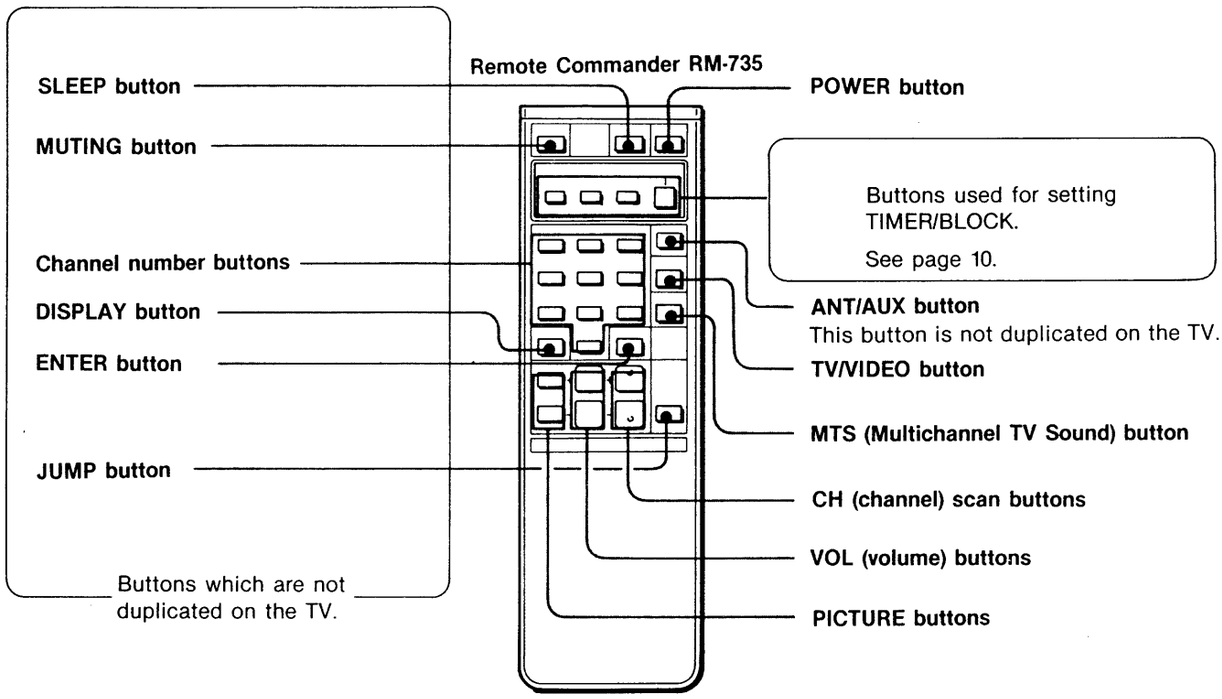
To turn the slot, use a coin or a similar object.

OPERATION

VIEWING TV PROGRAMS

This TV set is capable of receiving normal VHF and UHF broadcasts plus cable TV channels. (See "Cable TV channel chart" below.)

Usually the Remote Commander is all that is needed to operate the TV set in everyday use.



Cable TV channel chart*

Cable TV systems use letters or numbers to designate channels. To tune in a channel, refer to this chart.

Number on this TV						1	5	6	14	15	16	17
Corresponding CATV channel						A-8	A-7	A-6	A	B	C	D
18	19	20	21	22	23	24	25	26	27	28	29	30
E	F	G	H	I	J	K	L	M	N	O	P	Q
31	32	33	34	35	36	37	38	39	.....	.....	93	94
R	S	T	U	V	W	W+1	W+2	W+3	.....	.....	W+57	W+58
95	96	97	98	99	100	101	102	.....	.....	123	124	125
A-5	A-4	A-3	A-2	A-1	W+59	W+60	W+61	.....	.....	W+82	W+83	W+84

Check with your local cable TV company for more complete information on the available channels.

* The designation of the cable TV channels conforms to the EIA/NCTA recommended standards.

Preparation

Make sure the following are properly set.

- On-screen "EXT-A" indication should be off.
  If not, set the EXT-AUDIO/VIDEO selector to VIDEO.
- On-screen "VIDEO" indication and the VIDEO indicator should be off.
  If not, press the TV/VIDEO button so that they disappear.
- AUTO STEREO ON/OFF selector
  Set to ON.
- CABLE ON/OFF selector
  For cable TV channels, set to ON.
  For VHF and UHF channels, set to OFF.
- On-screen "AUX" indicator
  (Press ANT/AUX button to change as necessary.)
  For VHF, UHF and regular cable TV channels:
  The indicator should be off.
  For pay cable TV channels:
  The indicator should be displayed.

1 **Press POWER to turn on the TV.**
The channel number will be displayed on the screen for several seconds.

2 **Select channels in one of the following two ways.**
- Press the numeral(s) of the channel and then press ENTER.
  Ex. To select channel 6, press 6 and then ENTER.
  To select channel 125, press 1, 2, 5 and then ENTER.
  If you have pressed the wrong numeral, wait for a few seconds until the channel number display has disappeared. Then press again.
- Press CH + for higher-numbered channels and – for lower-numbered channels. The channels will appear in numerical sequence.

The channel number display will disappear after several seconds.
To keep the display on the screen, press **DISPLAY.**

3 **Adjust the volume and picture to your preference.**
Press VOL+ to increase volume, – to decrease it. Press PICTURE+ to increase picture contrast, – to decrease it.

To switch quickly between 2 channels, press **JUMP.** Each time JUMP is pressed, the channel which appeared on the screen directly before is recalled. This button enables you to keep track of two programs alternately.

To mute the sound, press **MUTING.** The "MUTING" indication will appear on the screen. To restore the sound, press MUTING again or VOL+/–.

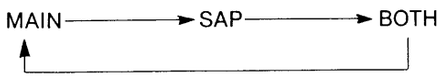
To turn off the set, press **POWER** again.

To have the TV turn off automatically after 1 hour, press **SLEEP.** The "SLEEP" indication will appear on the screen for a few seconds and the SLEEP indicator on the TV will remain lit until the TV is turned off. To cancel the SLEEP timer, press SLEEP again so that the SLEEP indicator goes out, or turn off the TV.

LISTENING TO MULTICHANNEL TV SOUND (MTS) BROADCASTS

To receive a stereo program

Normally set the AUTO STEREO selector to ON. In this position the STEREO indicator on the TV will light whenever a stereo broadcast is received.
To listen to the stereo sound, select the MAIN mode with the MTS button so that the "MAIN" indication is displayed. The stereo sound will be heard from the built-in left and right speakers.
Every push on the MTS button changes the indication as follows:



Select the appropriate mode according to various possible incoming broadcast signals.

When there is a SAP (Second Audio Program) broadcast

Select the SAP mode so that the "SAP" indication is displayed, and only the SAP sound will be heard from both speakers.

To listen to both MAIN and SAP broadcasts

Select the BOTH mode so that the "BOTH" indication is displayed. The MAIN and SAP sounds will come out from the left and right speakers respectively.
The MAIN sound becomes monaural (mixed) even when there is a stereo broadcast, because the sound comes only from the left speaker.

Notes

- There may be cases of stereo broadcasts where excessive "noise" will be heard due to a weak incoming signal. By setting the AUTO STEREO selector to OFF and returning to monaural mode, the noise should be eliminated.
- When the SAP or BOTH mode is selected and there is no SAP broadcast, no sound is heard from the speakers (in SAP mode) or the sound is heard only from the left speaker (in BOTH mode).
- The SAP broadcast will always be transmitted with the MAIN broadcast.

PICTURE ADJUSTMENTS

Satisfactory results will usually be obtained with the controls set at the factory-preset levels. If any adjustments are necessary, adjust the required controls as follows. The controls are located behind the front panel.

Adjusting the picture

HUE

skin tones become purplish

skin tones become greenish

COLOR

for less color intensity

for more color intensity

BRIGHT

for less brightness

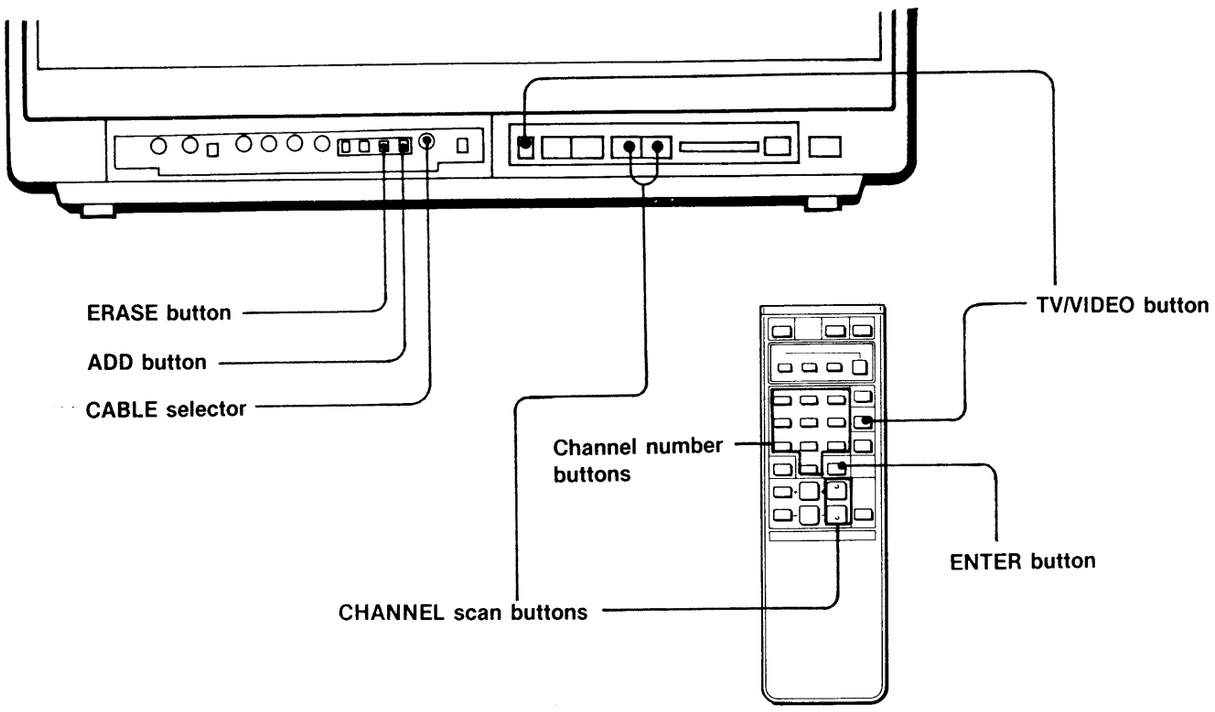
for more brightness

SHARPNESS

for less sharpness

for more sharpness

PRESETTING CHANNELS



Receivable channels of your set are:
VHF: 2-13
UHF: 14-69
Cable TV: 1-125
By adding and erasing channels, you can preset your TV so that only the desired channels appear, in numerical sequence, when CH (CHANNEL) + / – are pressed.

Preparation

1 Turn on the TV.
2 On-screen "EXT-A" indication should be off.
If not, set the EXT-AUDIO/VIDEO selector to VIDEO.
On-screen "VIDEO" indication and the VIDEO indicator should be off.
If not, press the TV/VIDEO button so that they disappear.
3 Set the CABLE ON/OFF selector according to the channel to be added or erased.
For cable TV channels, set to ON.
For VHF and UHF channels, set to OFF.
4 Press ANT/AUX button as necessary.
• On-screen "AUX" indicator
For VHF, UHF and regular cable TV channels:
The indicator should be off.
For pay cable TV channels:
The indicator should be displayed.

ADDING CHANNELS

1 **Select the channel to be added by pressing the channel number buttons and ENTER button.**
2 **Press ADD.**
A "+" indication will appear on the screen on the left of the channel number, indicating that the channel has been added.

Repeat steps **1** and **2** for other channels to be added.

ERASING CHANNELS

1 **Select the channel to be erased.**
2 **Press ERASE.**
A "–" indication will appear on the screen on the left of the channel number, indicating that the channel has been erased.

Repeat steps **1** and **2** for other channels to be erased.

To add erased channels again, follow the steps for adding channels.

Note
If you erase a VHF or UHF channel, the cable TV channel with the same number will also be erased, and vice versa.

TIMER/BLOCK

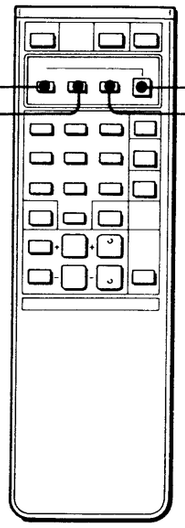
Internal clock
Once the internal clock is set, the current time will appear on the screen. It is necessary to set the clock correctly to activate the program start TIMER and channel BLOCK.

Program start TIMER
Makes a program of your choice appear on the screen automatically.

Channel BLOCK
Blocks a channel from appearing on the screen for 12 hours. Use channel BLOCK to prevent children from watching undesirable programs.

The buttons used for setting the internal clock, program start TIMER and channel BLOCK are located on the Remote Commander.

Remote Commander



TIMER OFF/REPEAT button
Used to deactivate or reactivate the program start TIMER.

CLEAR button
Used to erase the time and channel number from the set's memory.

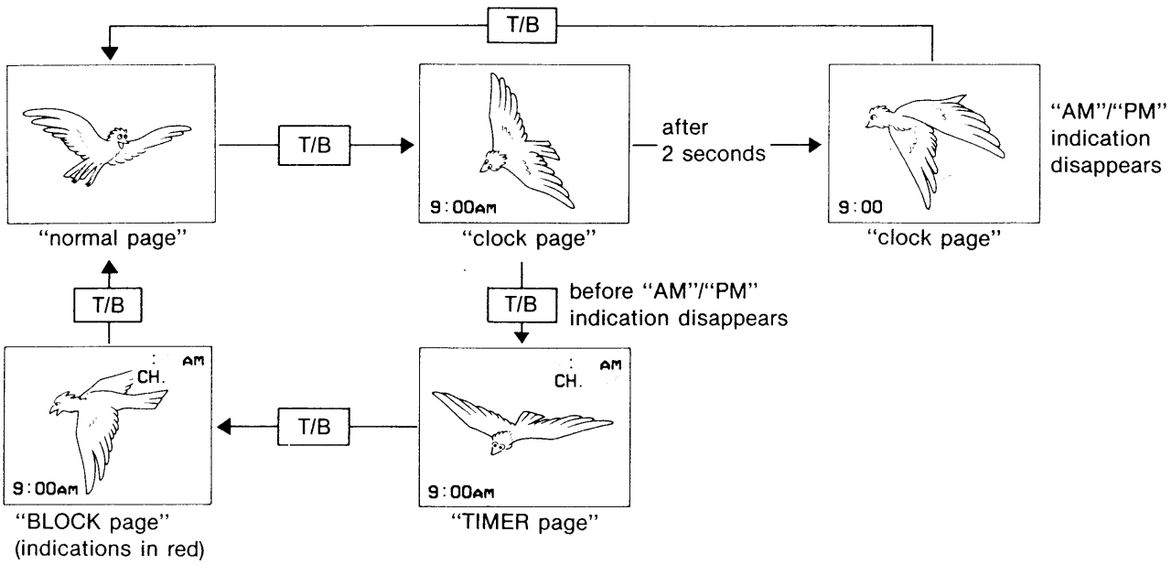
TIMER/BLOCK button
Used to change the "pages." See next page.
This button and the TIMER/BLOCK button on the TV are operated in the same way.

AM/PM button
Each time this button is pressed, the on-screen "AM" and "PM" indications will appear alternately.

Notes
- All settings will be erased from the set's memory if the set is unplugged, or if a power failure occurs.
- The TIMER and BLOCK will operate only if the clock is set correctly.
- If the TIMER and BLOCK are set for overlapping times on the same channel, the blocked channel will appear on the screen at the time set on the TIMER.

To set the internal clock, program start TIMER and channel BLOCK, you must summon the corresponding "pages": "clock page," "TIMER page" and "BLOCK page."

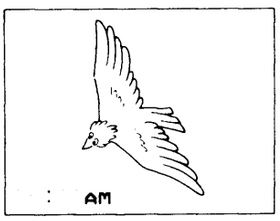
To change the "pages," press the TIMER/BLOCK button as illustrated below.
The illustration shows how to change the "pages" after the clock has been set.
T/B stands for "Press the TIMER/BLOCK button."



HOW TO SET THE INTERNAL CLOCK

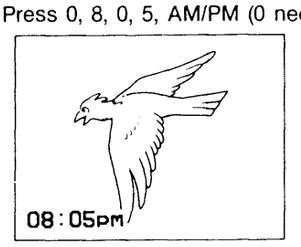
Ex. To set the clock to 8:05 PM, follow the steps below.

1 Press TIMER/BLOCK once to change from "normal page" to "clock page."

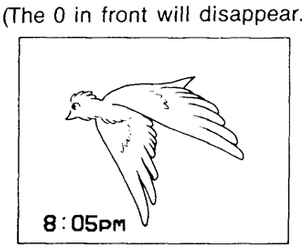


"clock page"

2 Press 0, 8, 0, 5, AM/PM (0 necessary).



3 If you have made a mistake, press CLEAR and return to step **2**.
If you have performed the operation correctly, press ENTER.
The numbers will "wink" to indicate that the clock has been set.
(The 0 in front will disappear.)



The "AM"/"PM" indication will disappear after 2 seconds.

To summon "TIMER page," press TIMER/BLOCK before the "AM"/"PM" indication disappears.
To return to "normal page," press TIMER/BLOCK after the "AM"/"PM" indication has disappeared.

To reset the clock, summon "clock page" and press CLEAR before the "AM"/"PM" indication disappears. Then follow the steps above from step **2**.

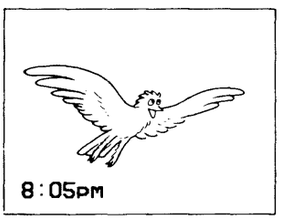
Note
12:00 AM stands for midnight.
12:00 PM stands for noon.

HOW TO SET THE PROGRAM START TIMER

Make sure that the clock has been set correctly before setting the program start TIMER.

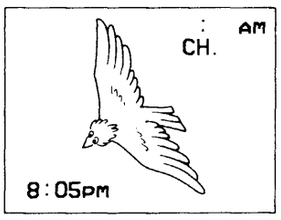
Ex. To set the TIMER for a program which begins at 10:30 PM on channel 12, follow the steps below.

1 Press TIMER/BLOCK once to change from "normal page" to "clock page."



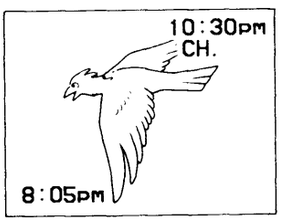
"clock page"

2 Press TIMER/BLOCK before the "AM"/"PM" indication disappears and summon "TIMER page."

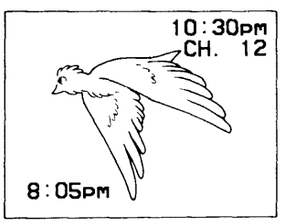


"TIMER page"

3 Press 1, 0, 3, 0, AM/PM, ENTER.
Numbers will "wink" to indicate that the time has been set.



4 Press 1, 2, ENTER (0 not necessary).
Numbers will "wink" to indicate that the channel has been set.



The TIMER indicator will light up to indicate that the TIMER has been set.
If you have made a mistake, press CLEAR and return to step **3**.

At the preset time, the selected channel will appear on the screen and the TIMER indicator will go out. The TIMER will operate whether you are watching a TV program or a VCR playback, or even if you have turned off the TV.
If no button* is pressed within 2 hours after the preset time, an "OFF" indication will appear on the screen for 1 minute. If a button* is still not touched during the 1 minute, the TV will turn off automatically as a safety precaution.

* AUTO STEREO selector and HUE, COLOR, BRIGHT and SHARPNESS controls excepted.

The TIMER operates only once, but the time and the channel will remain in the set's memory.
If, at a future date, you want to see the same channel at the same time, press TIMER OFF/REPEAT. The TIMER indicator will light up to indicate that the TIMER has been reactivated.

If you want to deactivate the TIMER, press TIMER OFF/REPEAT again so that the TIMER indicator goes out. It is not necessary to summon "TIMER page" to use the TIMER OFF/REPEAT button. Furthermore, this button is effective even if the TV has been turned off.

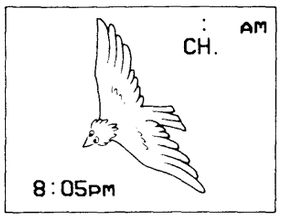
To clear the TIMER setting, summon "TIMER page" and press CLEAR.
To reset, clear the setting and follow the steps on the previous page from step **3.**

HOW TO SET THE CHANNEL BLOCK

Make sure that the clock has been set correctly before setting the channel BLOCK.

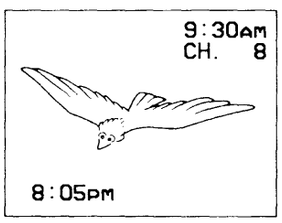
Ex. To set the BLOCK for a program which begins at 9:30 AM on channel 8, follow the steps below.

1 Press TIMER/BLOCK three times to change from "normal page" to "BLOCK page."



"BLOCK page"
(indications in red)

2 Press 0, 9, 3, 0, ENTER (0 necessary).
Numbers will "wink" to indicate that the time has been set.
Press 8, ENTER (0 not necessary).
Number will "wink" to indicate that the channel has been set.
Press the ANT/AUX button to check which channel you have selected. To select a pay cable TV channel, press the ANT/AUX button until on-screen "AUX" indicator appears for a few seconds.



The BLOCK has now been set.
If you have made a mistake, press CLEAR and return to step **2.**

At the preset time, the picture of the selected channel will be blocked from view and the sound will be muted.
A red "BLOCKED" indication will appear on the screen while the channel is blocked.
Normal reception will be resumed after 12 hours.
To return to normal reception while the channel is blocked, recall "BLOCK page" and press CLEAR.

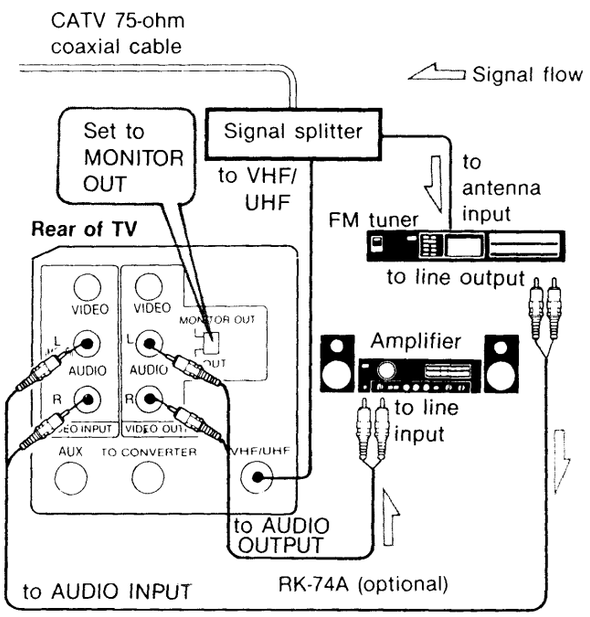
The BLOCK setting blocks a specified channel for the same 12-hour period everyday.

To clear the BLOCK setting, summon "BLOCK page" and press CLEAR.
To reset, clear the setting and follow the steps above from step **2.**

APPLICATIONS WITH OTHER OPTIONAL EQUIPMENT

ENJOYING FM SIMULCASTED PROGRAMS

By connecting an FM stereo tuner to the AUDIO INPUT jacks in addition to the usual CATV cable connection, you can enjoy certain cable TV programs with stereo sound, such as MTV (music television), whose stereo audio signals are sent over the cable on certain FM frequencies. The incoming cable signal is split by an optional signal splitter and fed to both the TV tuner (for picture) and an FM tuner (for sound).



Preparation

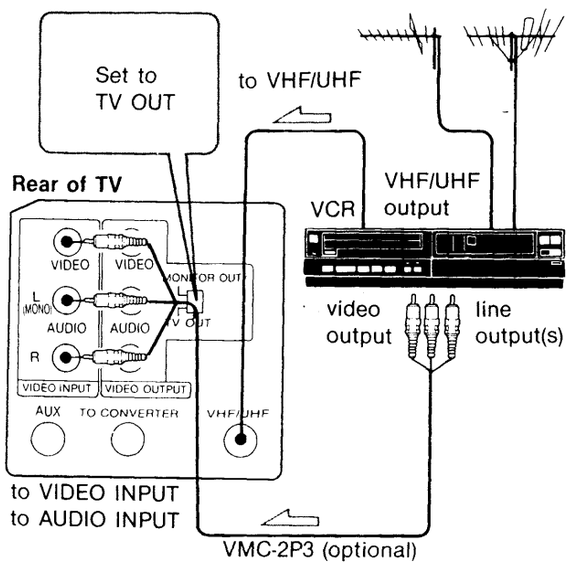
1 Turn on the TV.
2 Set the EXT-AUDIO/VIDEO selector to EXT-AUDIO.
3 Press the TV/VIDEO button so that the "EXT-A" indication appears on the screen for a few seconds.
4 Set the CABLE ON/OFF selector to ON.
Depending on the channel to be viewed, the on-screen "AUX" indicator should be as follows:
(Press ANT/AUX button to change as necessary.)
For regular cable TV channels:
The indicator should be off.
For pay cable TV channels:
The indicator should be displayed.
5 Operate the TV the same as in usual TV viewing.

Note

If the EXT-AUDIO/VIDEO selector is set to EXT-AUDIO and no sound source is connected to the AUDIO INPUT jacks, no sound is heard.

ENJOYING VCR PLAYBACK

You can achieve better picture and sound quality by connecting a VCR to your TV using the direct audio R/L and video jacks rather than using an RF connection to the antenna terminal. With this connection, you don't have to select channel 3 or 4 to view VCR playback.



Preparation

1 Turn on the TV.
2 Set the EXT-AUDIO/VIDEO selector to VIDEO.
3 Press the TV/VIDEO button so that the "VIDEO" indication appears on the screen and the VIDEO indicator lights up.

For operation, refer to the instruction manual furnished with the VCR.

You can select the desired TV channel even while viewing a VCR playback or listening to the sound fed in through the AUDIO INPUT jacks.

When the VCR is only equipped with one monaural audio output jack

Connect the audio output of the VCR to the AUDIO INPUT L (mono) jack. The monaural sound will be heard through both speakers. If it is connected to the AUDIO INPUT R jack, the sound will only be heard from the right speaker.

Notes

- If you have connected a VCR to your TV using only an RF connection, and cannot obtain a clear picture and/or sound, the following procedures may solve the problem.
  1 Make sure that the TV/VTR (program select) button on the VCR is set to TV.
  2 Re-select the desired channel with the buttons on the TV or TV Remote Commander.
- Keep the VCR away from the TV, if the picture or sound is affected.

ANTENNA/CABLE CONNECTION

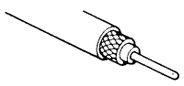
If you cannot obtain satisfactory reception with an indoor antenna, using an outdoor antenna may be necessary. Cable TV reception is only possible by connecting a cable supplied by your local cable operator.

1 Remove the indoor antenna from the antenna terminal of the TV.
2 Prepare the antenna or cable end using the appropriate connector, and connect the antenna or cable to the antenna terminal of the TV. (See A or B below.)

A **Combination VHF/UHF antenna*, VHF antenna, UHF antenna or CATV cable**

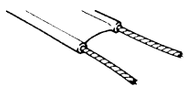
Select the proper connector according to the cable type.

When the cable is a 75-ohm coaxial type (round)

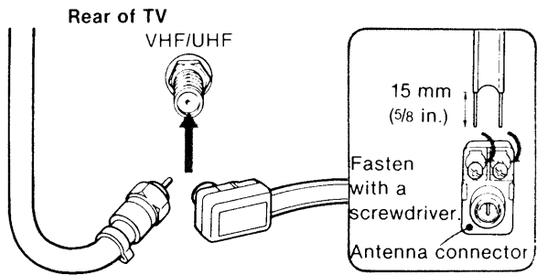


Use an optional F-type connector.

When the cable is a 300-ohm ribbon type lead-in (flat)



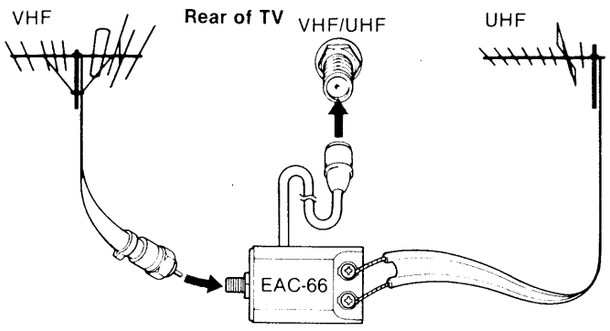
Attach the antenna connector.



* Most combination antennas are equipped with a signal splitter. Take off the splitter and attach the proper connector.

B **When both VHF and UHF antennas are connected**

Prepare the VHF antenna end using the appropriate connector as illustrated in **A**.
Attach an optional EAC-66 U/V mixer to the TV antenna terminal, and connect the cables to the U/V mixer.



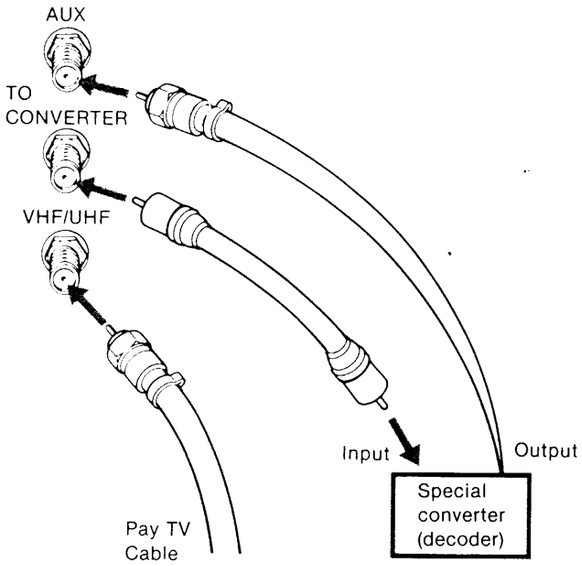
When the cable is connected to the TV with the U/V mixer, snow and noise may appear in the pictures of the cable TV channels over 37 (W + 1).

Note to CATV system installer in the U.S.A.:

This reminder is provided to call the CATV system installer's attention to Article 820-22 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

C **Cable with a special converter (decoder)**

Pay cable TV systems use scrambled or encoded signals and require special converters (decoders)* in addition to the normal cable connection. Connect the converter (decoder) with a 75-ohm coaxial cable (optional).

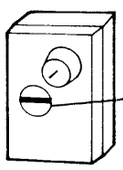


* The special converter (decoder) will be supplied by the cable company.

FOR CUSTOMERS IN THE U.S.A.

The supplied antenna connector will be used also as a U/V mixer.

When connecting both 75-ohm VHF and 300-ohm UHF antennas, or 300-ohm UHF antenna only;



To turn the slot, use a coin or a similar object.

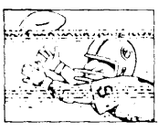
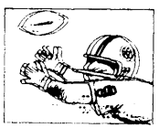
SPECIFICATIONS

Television system	American TV standards
Channel coverage	VHF: 2-13 UHF: 14-69 Cable TV: 1-125
Picture tube	Microblack Trinitron tube **20-inch picture measured diagonally** 21-inch picture tube measured diagonally
Input	Audio R/L phono jack, 408 mVrms (100% modulation), more than 47 k ohms Video phono jack, 1 Vp-p, 75 ohms, unbalanced, sync negative
Output	Audio R/L phono jack, 408 mVrms (100% modulation), more than 47 k ohms Video phono jack, 1 Vp-p, 75 ohms, unbalanced sync negative
Power requirements	120 V AC, 60 Hz
Power consumption	130 W (max.) 6 W (in standby condition)
Accessories supplied	Remote Commander RM-735 with 2 size AA batteries Telescopic dipole antenna Antenna connector
Optional accessories	Connecting cord RK-74A VMC-2P3

Design and specifications are subject to change without notice.

TROUBLESHOOTING

Disturbances in picture and sound can often be eliminated by checking the symptoms and following the suggestions listed below.

	SYMPTOM	CHECK AND ADJUST
GENERAL	**Poor or no picture (screen not lit), good sound**	• Adjust PICTURE. • Adjust BRIGHT. • Check antenna/cable connections.
	Good picture, no sound	• Press VOLUME +. • Release MUTING on the Remote Commander. • Check the EXT-AUDIO/VIDEO selector setting. • Check that the MTS button is set correctly.
	No picture (screen not lit), no sound	• Is POWER switched on? Power in outlet? • Check that the TV/VIDEO button is set correctly.
	No color	Is it a color program?
	Snow and noise only	• Is it an active or the correct channel? • Check the CABLE switch setting. • Check antenna connections.
	 **Dotted lines or stripes**	This is often caused by local interference. (Ex. cars, neon signs, hairdryers etc.) Adjust antenna for minimum interference.
	 **Double images or ghosts**	Reflections from nearby mountains or buildings often cause this problem. A highly directional outdoor antenna or CATV cable may improve the picture.
	Try another channel. It could be station trouble.	
TIMER/BLOCK	**Program start TIMER and/or channel BLOCK does not operate properly.**	• Is the clock set correctly? • Is the setting correct? • Have you unplugged the set? Has a power failure occurred? If so, the settings will have been erased.

If the problem still cannot be solved, contact your nearest service facility.